

REMARKS

Reconsideration and allowance of the claims is respectfully requested in view of the following remarks.

Claims 1-28 and 31-42 stand rejected. Claims 43 – 56 have been withdrawn from consideration.

Claims 1 – 28 and 31-42 are not obvious over Okada et al. in view of Perry's.

Claims 1-28 and 31-42 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. U. S. Patent No. 6,266,576 in view of Perry's Chemical Engineer's Handbook (Perry's). Applicants respectfully traverse. The Examiner states:

"Okada et al. disclose a method for controlling reformate delivered to fuel cell. The system includes an electric generating managing means (7), which is a system controller. The electric generating managing means detects the pressure in reservoir tank (12) by a pressure sensor (see column 9, line 36) and thus receives a "reformate pressure signal". The electric generating managing means controls or actuates the variable valve (10). (See column 10, lines 39-42.) As shown in Fig. 1, the variable valve is actuated in response to reformate pressure and target (desired) reformate pressure (26). (See column 9, lines 27-52.)"

"The disclosure of Okada does not explicitly disclose the controller receiving a 'controllable valve position signal.' However, one of ordinary skill in the art would understand a conventional valve positioner would enable the variable valve disclosed by Okada to be controlled by the electric generating managing means. As illustrated in Perry's, such a positioner includes a stem-position feedback network, so a valve position signal is provided to the electric generating managing means. (See Perry's, page 8-69.)"

Applicants respectfully contend that the Examiner has mischaracterized the references in that the cited references do not teach one or more of the elements claimed or that the suggested combination is improper and therefore cannot render the claims unpatentable.

Establishing a *prima facie* case of obviousness requires that all elements of the invention be disclosed in the prior art. *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970). Further, even assuming that all elements of an invention are disclosed in the prior art, an Examiner cannot establish obviousness by locating references that describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which would have impelled

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one skilled in the art to do what the patent applicant has done. *Ex parte Levingood*, 28 U.S.P.Q. 1300 (Bd. Pat. App. Int. 1993). The references, when viewed by themselves and not in retrospect, must suggest the invention. *In Re Skoll*, 187 U.S.P.Q. 481 (C.C.P.A. 1975).

Applicants respectfully contend that neither Okada et al. nor Perry's disclose or teach one or more of the elements claimed or that the suggested combination is improper and therefore cannot render the claims unpatentable. In particular, Applicants contend that Okada et al. does not disclose or teach, "receiving a controllable valve position signal from a controllable valve." Nor does Okada et al. disclose or teach "actuating a controllable valve in response to ... said controllable valve position signal." The Examiner has acknowledged that Okada does not teach or disclose these elements. The Examiner suggests that one of ordinary skill in the art would understand a conventional valve positioner would enable the variable valve disclosed by Okada to be controlled by the electric generating managing means of Okada. The Applicants disagree. The Examiner has merely located references that disclose various aspects of the Applicants' invention without providing any evidence of motivation or suggestion for such a combination. Furthermore, for reasons identified in depth below, the suggested combination of references is improper under §103. Therefore, the Examiner has not made a *prima facie case* for obviousness of the Applicants' claims. Thus, the rejections of Claims 1-28 and 31-42 are improper and the rejections should be withdrawn.

Applicants respectfully maintain that the Examiner has used an improper standard in arriving at the rejection of the above claims under §103, which fails to consider the totality of Applicants' invention and to the totality of the cited references. More specifically, the Examiner has apparently used Applicants' disclosure to select portions of the cited references to allegedly arrive at Applicants' invention. In doing so, the Examiner has failed to consider the teachings of the references or Applicants invention as a whole in contravention of §103.

In particular, the Examiner has provided no explanation or suggestion for the motivation to make the suggested combination, nor has the Examiner identified where in the cited references or the art teaching of such motivation may be found. *In re Fine* specifically requires that the Examiner must meet the burden of establishing the suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. The explanation in the Office Action provides no such evidence. There is no specific teaching in the totality of the art including the cited references as suggested by the Examiner that would motivate one skilled in the art to make the suggested combination of the robot fuel cell system of

Okada with the particular teachings of Perry's on valve positioners to allegedly arrive at the Applicants' invention. In fact, there is significant teaching away from such a combination. Okada specifically teaches and in fact, requires the utilization of a constant pressure regulator 11, 61 and shut off valve 62 to facilitate the anticipatory control scheme disclosed therein. Furthermore, Okada specifically teaches of a separate feedback control process in the electric generation managing means 7 employed to control the amount of hydrogen generated. Therefore, the suggested combination of Okada with Perry's would be fruitless in light of Okada's teachings, in that Okada would not need the controllable valve such as employed by the Applicants to implement the hydrogen generation control methodologies employed therein. Therefore, there is no teaching the totality of the art and references that would motivate skilled in the art to view the cited references and arrive at the Applicant's invention. Thus, the Examiner has employed an improper standard of obviousness to merely locate references to find elements similar to the claimed elements without providing suggestion for their combination.

Moreover, considering hypothetically that the suggested combination is made, the proposed combination would still not be sufficient to render Applicant's claims unpatentable. For an obviousness rejection to be proper, the Examiner must also meet the burden of establishing ... that the proposed modification of the prior art must have had a reasonable expectation of success. MPEP 2143.02. Moreover, the suggested modification cannot change the principle of operation of a reference. MPEP 2143.01. The combination of references as suggested in the Office Action cannot satisfy either of these requirements.

There is no motivation to combine the references and make the suggested modifications because to do so would require a change in the principles of operation of Okada. In particular, Okada specifically teaches employing the constant pressure regulator 11, 61 and shut off valve 62 to facilitate the anticipatory control scheme disclosed therein. Furthermore, the separate feedback control process of Okada provides the control therein for ensuring sufficient hydrogen is generated. The suggested combination of adding a controllable valve, control signals and feedback of Perry's to Okada as suggested to control the reformat (hydrogen) delivered to the fuel cell 5 would require a change in the principle of operation of Okada by abandoning either the use of the pressure regulator 11, 61 or the feedback control process in the electric generating managing means 7. In addition, Okada employs the anticipatory control scheme taught therein based on the known characteristics of the output of the pressure regulator and the control loop around the reformer as well to ensure that sufficient hydrogen, and thereby electricity is

generated. Furthermore, the feedback control process of Okada would not need the controllable valve employed by the Applicants to implement the control methodologies employed therein because the control process disclosed is based on the pressure supplied to the fuel cell 5, the anticipatory control scheme, and the fuel delivered to the reformer, not a particular valve position as the Examiner suggests. In fact, to employ the controllable valve of Perry's as the Examiner suggests would render the feedback control process taught in Okada redundant or inoperative. Furthermore, adding a valve position control system in and downstream of the feedback control process may very well destroy the controllability or stability of the feedback control process or anticipatory control scheme as taught by Okada. To employ the suggested combination of Okada with Perry's would render portions of Okada inoperative or change the principles of operation thereof in contravention of §103.

Therefore, because the suggested combination would not exhibit a reasonable expectation of success and/or would change the principles of operation of both references, there is no suggestion or motivation to combine/modify the references. Because there is no motivation to combine Okada with Perry's as suggested, the Examiner has not made a *prima facie* case for obviousness in accordance with §103 and they cannot render the Applicants' claims unpatentable. Thus, Claims 1-28 and 31-42 are allowable, the rejections are improper, and they should be withdrawn.

With respect to the dependent claims, the Examiner in the Office Action has provided no direct rejection of these claims other than grouping them with the independent claims. Applicants respectfully submit that the Examiner has provided an improper rejection by not clearly identifying the grounds for rejection against each of the claims. Therefore Applicants respectfully request clarification of the reasons for rejecting the dependent claims and a non-final opportunity for response.

For the reasons cited above, Applicants respectfully submit that this application is in condition for allowance and request withdrawal of the outstanding rejections and early allowance of this application. It is believed that the foregoing remarks are fully responsive to the Office Action and that the claims herein should be allowable to the Applicants.

The claims were not amended to overcome the prior art and therefore, no presumption should attach that either the claims have been narrowed over those earlier presented, or that subject matter or equivalents thereof to which the Applicants are entitled has been surrendered.

No new matter has been introduced. Consideration and allowance of the claims is respectfully requested in view of the preceding remarks.

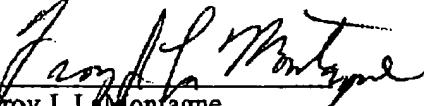
In the event the Examiner has any queries regarding the submitted arguments, the undersigned respectfully requests the courtesy of a telephone conference to discuss any ~~matters~~ in need of attention.

If there are additional charges with respect to this matter or otherwise, please ~~charge~~ them to Deposit Account No. 06-1130.

Respectfully Submitted,

CANTOR COLBURN LLP

By


Troy J. L. Montagne
Registration No. 47,239
55 Griffin Road South
Bloomfield, CT 06002
Telephone: (860) 286-2929
Facsimile: (860) 286-0115

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